CLAIMS

What is claimed is:

1. A method of employing a collision avoidance system for an aircraft that is a member of a formation to distinguish between members and nonmembers of the formation, the method comprising providing a signal used to indicate only that one or more other formation member aircraft has attained at least one of a predefined spatial condition and a predefined temporal condition.

2. The method of claim 1 wherein the signal is provided by the collision avoidance system.

3. The method of claim 1 further comprising generating an announcement in response to the signal.

4. The method of claim 3 wherein the announcement is not a traffic advisory.

5. The method of claim 3 wherein the announcement does not comprise "traffic traffic."

6. The method of claim 3 wherein the announcement comprises at least one of "monitor member," "traffic monitor traffic," "monitor traffic," "member traffic," "encroachment" and "monitor encroachment."

7. The method of claim 1 wherein the aircraft and the other formation member aircraft are military aircraft.

8. The method of claim 3 wherein the announcement distinguishes between civilian aircraft and military aircraft.

9. The method of claim 4 wherein the at least one of the predefined spatial condition and the predefined temporal condition is different from another predefined condition that results in issuance of the traffic advisory.

10. The method of claim 4 wherein the at least one of the predefined spatial condition and the predefined temporal condition is the same as another predefined condition that results in issuance of the traffic advisory.

11. A method of employing a collision avoidance system for an aircraft that is a member of a formation to distinguish between members and nonmembers of the formation, the method comprising:

determining that at least one of a predefined spatial condition and a predefined temporal condition is attained by one or more other formation member aircraft; and

providing a signal that is unique as a result of the determination.

12. A method of employing a collision avoidance system to distinguish between members and nonmembers of a formation, the method comprising:

differentiating between a first aircraft that is a member of the formation and a second aircraft that is not a member of the formation; and

providing an aural indication that distinguishes between the first aircraft and the second aircraft.

13. A method of employing a collision avoidance system for an aircraft that is engaged in a refueling operation, the method comprising providing a signal used to indicate attainment of a predefined condition for the refueling operation.

14. The method of claim 13 wherein the signal is provided by the collision avoidance system.

15. The method of claim 13 further comprising generating an announcement in response to the signal.

16. The method of claim 13 wherein the predefined condition is at least one of a predefined spatial condition and a predefined temporal condition.

17. The method of claim 15 wherein the announcement pertains to at least one of vertical and horizontal distance between aircraft engaged in the refueling operation.

18. A method of employing a collision avoidance system for an aircraft to enhance awareness of operation of the collision avoidance system, the method comprising providing a signal used to aurally indicate a change in a mode of operation of the collision avoidance system.

19. The method of claim 18 wherein the signal is provided by the collision avoidance system.

20. The method of claim 18 further comprising generating an announcement in response to the signal.

21. The method of claim 18 wherein the change in the mode of operation is automatic once a predefined condition is attained.

22. The method of claim 18 wherein the change in the mode of operation is manually initiated.

23. The method of claim 18 wherein the change in the mode of operation comprises a change in surveillance volume for the collision avoidance system.

24. The method of claim 20 wherein the announcement comprises at least one of "collision avoidance off," "traffic advisory only," "TA ONLY," "traffic advisory resolution advisory," "TA/RA," "formation," "refuel," "limited surveillance," "reduced surveillance," "air traffic control off" and "ATC off."

25. A method of employing a collision avoidance system for an aircraft to enhance awareness of operation of the collision avoidance system, the method comprising:

providing a signal used to indicate a change in a mode of operation of the collision avoidance system; and

modifying a displayed view of an own aircraft symbol in response to the signal.

26. The method of claim 25 wherein the modifying comprises at least one of modifying color of the own aircraft symbol, modifying size of the own aircraft symbol, modifying shape of the own aircraft symbol, periodically interrupting display of the own aircraft symbol, and adding at least one further displayed object in proximity to the own aircraft symbol.

27. The method of claim 26 wherein the further displayed object bounds an area in proximity to the own aircraft symbol.

28. The method of claim 27 wherein displayed view of at least one other aircraft is inhibited in the area.

29. A collision avoidance system for an aircraft that is a member of a formation, comprising:

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to provide a signal used to indicate only that one or more other formation member aircraft has attained at least one of a predefined spatial condition and a predefined temporal condition.

30. A system, comprising:

an aircraft that is a member of a formation and includes a collision avoidance system;

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to provide a signal used to indicate only that one or more other formation member aircraft has attained at least one of a predefined spatial condition and a predefined temporal condition.

31. A collision avoidance system for an aircraft that is a member of a formation, comprising:

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to:

determine that at least one of a predefined spatial condition and a predefined temporal condition is attained by one or more other formation member aircraft; and

provide a signal that is unique as a result of the determination.

32. A system, comprising:

an aircraft that is a member of a formation and includes a collision avoidance system;

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to:

determine that at least one of a predefined spatial condition and a predefined temporal condition is attained by one or more other formation member aircraft; and

provide a signal that is unique as a result of the determination.

33. A collision avoidance system, comprising:

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to:

differentiate between a first aircraft that is a member of a formation and a second aircraft that is not a member of the formation; and

provide an aural indication that distinguishes between the first aircraft and the second aircraft.

34. A system, comprising:

an aircraft that is a member of a formation and includes a collision avoidance system;

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to:

differentiate between a first aircraft that is a member of a formation and a second aircraft that is not a member of the formation; and

provide an aural indication that distinguishes between the first aircraft and the second aircraft.

35. A collision avoidance system for an aircraft that is engaged in a refueling operation, comprising:

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to provide a signal used to indicate attainment of a predefined condition for the refueling operation.

36. A system, comprising:

an aircraft that is engaged in a refueling operation and includes a collision avoidance system;

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to provide a signal used to indicate attainment of a predefined condition for the refueling operation.

37. A collision avoidance system, comprising:

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to provide a signal used to aurally indicate a change in a mode of operation of the collision avoidance system.

38. A system, comprising:

an aircraft that includes a collision avoidance system;

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to provide a signal used to aurally indicate a change in a mode of operation of the collision avoidance system.

39. A collision avoidance system, comprising:

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to:

provide a signal used to indicate a change in a mode of operation of the collision avoidance system; and

modify a displayed view of an own aircraft symbol in response to the signal.

40. A system, comprising:

an aircraft that includes a collision avoidance system;

a device storing a program to control at least certain operations of the collision avoidance system; and

a processor operating in accordance with the program to:

provide a signal used to indicate a change in a mode of operation of the collision avoidance system; and

modify a displayed view of an own aircraft symbol in response to the signal.